

REMARKS

Claims 15-24 were presented for examination. Claims 15-24 were rejected in the Office Action dated November 16, 2007.

Claims 15, 16 and 24 are hereby amended merely to more specifically recite inherent aspects of the invention as originally claimed and to overcome the rejection under 35 U.S.C. § 101.

Reconsideration of this application, and allowance of all pending claims 15-24 are hereby respectfully requested.

Summary of Substance of Interview

Applicants' representative Dohyun Ahn (Ltd. Rec. No. L0359) had a telephone interview with Examiner Andrew Belousov and his supervisor Steve Sax on February 1, 2008. Independent claims 15 and 16, and the cited references U.S. Patent No. 5,995,108 to Isobe et al. ("Isobe"), U.S. Patent Application Publication No. 2003/0011619 to Jacobs et al. ("Jacobs") and U.S. Patent No. 6,064,399 to Teo ("Teo") were discussed.

An agreement was reached with respect to rejection under 35 U.S.C. § 101 that amending claims 15 and 16 to recite the subject matter of "an interactive seamer *apparatus*" would overcome this rejection.

An agreement was also reached with respect to claim 15 that neither Isobe nor Jacobs disclosed the feature of "opacity value of the pixels . . . manually adjusted by changing the size of the outlined area" as recited in claim 15. It was also agreed that adding the limitation of "seaming two or more single view images vertically or horizontally" would further distinguish claim 15 from Isobe.

An agreement was not reached with respect to claim 16. Applicants' representative proposed adding limitations to claim 16, but no agreement was reached as to whether such limitations distinguished claim 16 from Teo.

Claims 15-24 are directed to statutory subject matter

Claims 15-24 were rejected under 35 U.S.C. § 101 for not being directed to statutory subject matter. This rejection is overcome in view of the amended claims 15, 16, and 24.

Claims 15 and 16, as amended, are directed to “an interactive seamer *apparatus*.” Claims 15 and 16, as amended, recite that the subject matter of the claimed invention is apparatus. Apparatus is an eligible subject matter under 35 U.S.C. § 101. Therefore, claims 15 and 16, as amended, recite eligible subject matter under 35 U.S.C. § 101. Claims 17-23 depend from claim 16; and thus, essentially the same arguments for claim 16 are equally applicable to claims 17-23.

Claim 24 is also amended to recite the subject matter of “a computer-implemented method.” Further, claim 24, as amended, recites the step of “storing the panoramic image.” Therefore, claim 24 is hereby amended to recite eligible subject matter under 35 U.S.C. § 101.

Accordingly, Applicants respectfully submit that claims 15-24 are directed to patentable subject matter under 35 U.S.C. § 101.

None of the references disclose manually adjusting the opacity values of pixels by changing the size of the outlined area in the second display area

Claims 15 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Isobe in view of Jacobs. This rejection is respectfully traversed.

Independent claim 15 specifically recites “the opacity values of the pixels in the overlapping portions encompassed by the outlined area are manually adjusted by changing the size of the outlined area in the second display area.”

In panoramic images, artifacts may be generated in areas of the panoramic images where the single view images overlap. In order to remove or reduce such artifacts, the size of the outlined area of the second display is changed in the interactive seamer apparatus of claim 15. This causes the opacity values of the pixels in the panoramic image to be adjusted. This feature is advantageous because a user can conveniently eliminate artifacts in the panoramic image by manually adjusting the size of the outlined area. See, for example, specification, p.12, ll.21-26.

This feature is not disclosed in any of the cited references taken alone or in combination. Isobe discloses an apparatus for composing and displaying a three-dimensional image. See Isobe, Abstract. In Isobe, multiple two-dimensional images are displayed on windows 321 and a composition image generated by overlapping the two-dimensional images is displayed on a window 301. See Isobe, col. 10, ll. 29-44. In Isobe, the opacity of the two-dimensional images is adjusted by moving sliders 331 appearing below the windows 321. That is, in Isobe, the opacity is not adjusted by changing the size of an outlined area in the two-dimensional image. Therefore, Isobe does not disclose the feature of “the opacity values of the pixels . . . are manually adjusted by changing the size of the outlined area in the second display area,” as recited in claim 15, as amended.

Neither does Jacobs disclose the feature of “the opacity values of the pixels . . . are manually adjusted by changing the size of the outlined area in the second display area.” At best, Jacobs discloses blending the overlapping portions of the single view images by changing the opacity of single view images. See Jacobs, paragraph [0038]. Nowhere in Jacobs does it state

that the opacity values of the pixels are adjusted by changing the size of the outlined area of any image. Therefore, Jacobs also fails to disclose the feature of “the opacity values of the pixels . . . are manually adjusted by changing the size of the outlined area in the second display area,” as recited in claim 15, as amended.

Claim 24 also recites the feature of “the opacity values of the pixels in the overlapping portions encompassed by the outlined area are manually adjusted by changing the size of the outlined area in the second display area.” Therefore, essentially the same arguments for claim 15 are equally applicable to claim 15.

Accordingly, Applicants respectfully submit that claims 15 and 24 are patentably distinct from Isobe and Jacobs.

None of the references disclose superimposing an array of control points within an area corresponding to an interior of the single view image

Claims 16-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of Teo, Isobe and U.S. Patent No. 4,740,779 to Cleary et al. (“Cleary”). This rejection is respectfully traversed in view of amended claim 16.

Independent claim 16, as amended, specifically recites:

“a user interface having a first display area for displaying a panoramic image generated from a number of single view images and a second display area for displaying a selected single view image projected from the panoramic image, wherein *an array of control points are superimposed within an area in the panoramic image corresponding to an interior of the selected single view image for manually warping parts of the panoramic image corresponding to the selected single view image by moving the control points*, the warping being

independent of placement or movement of the selected single view image within the panoramic image.” (Emphasis added).

In panoramic images, objects visible in two or more neighboring single view images may not align properly. In the claimed invention, such misalignment is corrected by moving one or more control points superimposed on the interior of the selected single view image. By using an array of control points within the single view image, the misalignment of objects in different locations of the panoramic images may be aligned properly. That is, different parts of the panoramic images may be warped differently so that different objects in the panoramic images are aligned properly. By aligning the objects, the panoramic images appear more natural and consistent.

The feature of “an array of control points are superimposed within an area in the panoramic image corresponding to an interior of the selected single view image for manually warping parts of the panoramic image corresponding to the selected single view image by moving the control points” is not disclosed in any of the cited references taken alone or in combination. At best, Teo discloses dragging points 410 at four corners of the image. See Teo, col. 8, ll. The dragging points 410 in Teo are neither arranged in an array nor are they placed within the interior of the single view image. Therefore, in Teo, different parts of the panoramic images cannot be warped in a different manner. Nowhere in Teo does it disclose that an array of control points is superimposed within an area in the panoramic image corresponding to an interior of the selected single view image.

Neither does Isobe disclose this feature. As set forth above, Isobe merely discloses generating a composition image from multiple single view images by adjusting the opacity of each single view images. Nowhere in Isobe does it disclose using any control points to warp

parts of the composition image.

Cleary also fails to disclose this feature. Cleary was cited in the Office Action merely for the reason that it disclosed an artificial horizon. Nowhere in Cleary does it disclose using any control points to warp any parts of the panoramic image.

Accordingly, Applicants respectfully submit that claim 16 and its dependent claims 17-23 are patentably distinguishable from various combinations of Teo, Isobe and Cleary.

Closing

Applicants believe that the application is in condition for allowance of all claims herein, claims 15-24, and therefore an early Notice of Allowance is respectfully requested. If the Examiner believes that for any reason direct contact with Applicants' attorney would help advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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